

### **REMARKS**

Claims 9-11, 13 and 15-17 are pending in the application. Claims 1-7 have been withdrawn by the Examiner in view of the previously issued restriction requirement. Claims 1-7 have been canceled in view of the restriction requirement, without prejudice, to the filing of a divisional application containing the subject matter of these claims. Claims 8, 12, and 14 have been canceled, without prejudice.

Claims 9, 10 and 11 have been amended and new claims 15-17 have been added. No new matter is added by the amendments nor by the addition of the new claims; support for each is found at least in claims 8, 9 and 10 as originally filed.

The specification has been amended to comply with U.S.P.T.O. formalities. No new matter is added by the amendments. A replacement sheet containing a less lengthy Abstract is provided herewith.

#### **Objection to Specification**

The Examiner has objected to the abstract of the disclosure for being too long. The applicant has amended the abstract by providing a replacement sheet containing an Abstract that is within the 150 word limit proscribed by the rules. It is submitted that the Examiner's objection is no longer applicable. Its withdrawal is requested.

#### **Objection to Disclosure**

The Examiner has objected to the disclosure on the basis of several informalities of grammar and/or style inconsistencies. The applicant has amended the specification to correct those pointed out by the Examiner and others observed by the applicant's representative. Accordingly, it is submitted that the objection is no longer applicable and its withdrawal is requested.

A "clean" version of Table 1 is also provided for the Examiner's review, so as to avoid any ambiguity due to the markings used in making the amendments.

**Objection to Claims**

The Examiner has objected to claims 12 and 14, each of which is canceled by the present amendment. Thus, the objection is no longer applicable and its reconsideration and withdrawal is requested.

**Rejection under the Second Paragraph of 35 U.S.C. § 112**

The Examiner has rejected claims 8-14 under 35 U.S.C. § 112, second paragraph, asserting that the claims are indefinite on various grounds as failing to particularly point out and distinctly claim the subject matter that the applicant regards as the invention. The Examiner has rejected claims 8 and 9-14 for use of the phrases “wherein said end pieces of electrodes”, said circuit”, and “the aligned direction of said electrodes”. Claim 8 has been canceled, and the new claim that incorporates the subject matter of claim 8 does not contain any of this language and is believed to be fully compliant with the second paragraph of 35 U.S.C. § 112.

The Examiner rejects claim 10 on the ground that use of the phrase “an electrode having a higher oxidation/reduction potential” and “an electrode having a lower oxidation/reduction potential” are unclear as relative terms having no standard of comparison. Claim 10 has been amended to make clear that the lower/higher terms of comparison relate to the other at least two electrodes present in the electrochemical device.

In rejecting claim 11, the Examiner contends that use of the phrase “the space between the electrodes” lacks antecedent basis. The applicant has amended the claim to recite the Examiner’s suggested phrase.

In view of the foregoing, it is respectfully submitted that the claims are fully compliant with 35 U.S.C. § 112, first and second paragraphs. Accordingly, it is requested that the Examiner reconsider and withdraw the rejection.

**Rejection under 35 U.S.C. § 102(e) Based Upon U.S. Patent No. 5,944,685**

The Examiner has rejected claims 8-14 under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 5,994,685 of Muroki (“Muroki”). The Examiner asserts that Muroki teaches an electrochemical device for moving charged particles by electrophoresis comprising two electrodes having different oxidation/reduction potentials and a circuit that short circuits the

electrodes. The particles, according to the Examiner, move in a direction aligned perpendicular to the surface of the electrodes.

The applicant respectfully traverses the rejection.

Muroki teaches a skin contact type medical treatment apparatus that is designed to be used as a transcutaneous dosing element by which a therapeutic ionic substance is migrated from the device across the skin of a living body. The device is shown in Figure 1, and includes an adhesive sheet having a skin contact surface that permits adhesion of the dosage element to the skin of a living body. On the adhesive sheet is a first connective film upon which is disposed a conductive matrix. The conductive matrix is made of a conductive gel of high polymer. Layered on top of the conductive matrix is a second conductive film having a plurality of openings distributed on the surface of the conductive matrix. In addition, there is an insulating film located between the conductive matrix and the conductive film. A connection member electrically interconnects the first conductive film and the second conductive film. The connection member is seen as 5 and 5' in Figure 1B.

As can be seen in Figure 1B, the transcutaneous dosing element is designed to be placed in contact with and adhered to a skin surface. *In situ*, a current path exists that is a closed circuit passing through, in sequential order, the semi-conductor layer, the connection member, the metal electrode sheet (conductive layer), the conductive matrix containing gel, and the skin. Following this pathway, the current facilitates the transcutaneous migration of the ionic drug or medicament in the gel.

As the device of Muroki does not possess each element of the invention as claimed, it does not anticipate it under 35 U.S.C. § 102. First, the Muroki device does not include at least two electrodes contacting a liquid containing particles covered with a protein. The electrodes in the Muroki device contact a gel containing conductor matrix or skin of a living body, neither of which is a liquid. Moreover, none of the drugs or medicaments taught in Muroki are particles covered with a protein.

Thus, because Muroki is missing at least two elements of the invention as claimed, it does not anticipate it. Reconsideration and withdrawal of the rejection is respectfully requested.

**Rejection under 35 U.S.C. § 102(b) Based Upon U.S. Patent No. 3,865,711**

The Examiner has rejected claims 8-10 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 3,865,711 of Anderson. The Examiner contends that Anderson teaches a device for electrochemically separating components in a mixture using either galvanic or impressed direct current. The Examiner contends that “galvanic current generates its own current based on the oxidation/reduction potentials of the electrodes”. Thus, the Examiner reasons that when the device of Anderson is utilized by galvanic current, it anticipates the invention as claimed.

The applicant respectfully traverses the rejection.

The device of Anderson does not include at least two electrodes contacting a liquid containing particles covered with a protein. The substance placed in the Anderson device for separation is waste water containing oil and water emulsions. No discussion of particles covered in proteins is provided.

Additionally, contrary to the Examiner’s assertion, galvanic current is a direct current generated by a chemical reaction. Regardless of whether galvanic or impressed direct current are used, the Anderson device requires that a voltage is applied externally to move components in the electrolyte. *See* col. 5, lines 26-28. That is, the voltage is applied between the paired electrodes. The circuit in Anderson does not generate a potential difference between the electrodes.

Accordingly, for at least the reasons given above, the disclosure of Anderson does not teach or suggest all elements of the invention and therefore does not anticipate it.

### CONCLUSION

In view of the foregoing amendments, it is submitted that the claims are fully compliant with 35 U.S.C. § 112. Further, the applicant by his arguments has demonstrated that the claims are patentably distinguishable over the cited prior art. Accordingly, reconsideration and allowance of claims 9-11, 13, and 15-17 are respectfully requested.

Respectfully submitted,

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January 29, 2004 By: Kristyne A. Bullock  
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Enclosures - One Month Petition for Extension of Time  
Attachments - Replacement Sheet - Abstract  
Clean Version of Table 1